

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 499343 EMN/mjw	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/NZ2004/000085</b>	International filing date ( <i>day/month/year</i> ) 6 May 2004	Priority date ( <i>day/month/year</i> ) 6 May 2003
International Patent Classification (IPC) or national classification and IPC  Int. Cl. <sup>7</sup> G09F 19/14		
Applicant  BREGMEN, Jason et al		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of 3 sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <div style="margin-left: 20px;"> a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of 3 sheets, as follows: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).  <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> </div> <div style="margin-left: 20px;"> b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). </div>
4.	This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I      Basis of the report  <input type="checkbox"/> Box No. II      Priority  <input type="checkbox"/> Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  <input type="checkbox"/> Box No. IV      Lack of unity of invention  <input checked="" type="checkbox"/> Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  <input type="checkbox"/> Box No. VI      Certain documents cited  <input type="checkbox"/> Box No. VII      Certain defects in the international application  <input type="checkbox"/> Box No. VIII      Certain observations on the international application </div>

Date of submission of the demand 23 February 2005	Date of completion of the report 5 September 2005
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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/NZ2004/000085

**Box No. I**      **Basis of the report**

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1 (b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3).

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☐ the international application as originally filed/furnished

☒ the description:

pages 1-10 as originally filed/furnished

pages\* received by this Authority on with the letter of

pages\* received by this Authority on with the letter of

☒ the claims:

pages as originally filed/furnished

pages\* as amended (together with any statement) under Article 19

page\* 11 received by this Authority on 23 February 2005 with the letter of the same date

pages\* 12, 13 received by this Authority on 28 July 2005 with the letter of the same date

☒ the drawings:

pages 1/8-8/8 as originally filed/furnished

pages\* received by this Authority on with the letter of

pages\* received by this Authority on with the letter of

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):

\* If item 4 applies, some or all of those sheets may be marked "superseded."

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims 1-27	YES
	Claims nil	NO
Inventive step (IS)	Claims nil	YES
	Claims 1-27	NO
Industrial applicability (IA)	Claims 1-27	YES
	Claims nil	NO

**2. Citations and explanations (Rule 70.7)****CITATIONS**

D1: GB 2372618 A (EASTMAN KODAK COMPANY) 28 August 2002

D2: US 5782026 A (CAPIE) 21 July 1998

D3: GB 109735 (CARVER) 27 September 1917

D4: GB 106866 (CAMPBELL et al) 14 June 1917

**NEW CITATIONS**

D5: WO 2000/077558 A1 (DIMENSIONAL MEDIA ASSOCIATES, INC.) 21 December 2000

D6: US 6549295 B1 (FANTONE, et al) 15 April 2003

D7: US 6490092 B1 (GOGGINS) 3 December 2002

D8: US 6476850 B1 (ERBEY) 5 November 2002

**NOVELTY (N)**

None of the citations D1-D8 disclose all the features defined in claim 1. Therefore claim 1 and its appended claims 2-27 are novel.

**INVENTIVE STEP (IS)**

It is clear from the prior art sections described in citations D5 to D8 and from many other patent documents that it is common general knowledge in the art of imaging that interlaced images can be used to produce three dimensional looking images by providing slightly different images to each eye. It is also clearly common knowledge that the interlaced images may be used with either lenticular arrays or parallel barrier strips to produce the three dimensional looking images (see the prior art of citations D6 and D8 in particular).

Each of citations D1 to D4 disclose, directly or inherently, an apparatus for displaying images including an enclosure, a frame installed in the enclosure adapted to hold an interlaced image, an optical barrier including a plurality of substantially parallel elongated grills spaced from the frame and adapted to obscure portions of an installed interlaced image, and the interlaced image in conjunction with the optical barrier display images to a viewer.

Therefore it would have been obvious to combine any one of citations D1 to D4 with common general knowledge to provide apparatus of the type claimed for displaying 3D images and therefore claim 1 lacks an inventive step. Similarly claims 2-27 also lack an inventive step as the features added by these claims are either disclosed in citations D1-D4 or would be obvious to the person skilled in the art.

List of Documents for IDS

GB2372618  
US5782026  
GB109735  
GB106866  
WO 2000/077558  
US6549295  
US6490092  
US6476850  
US6594083

US5966105  
WO 87/05711  
US4927238  
US5695346

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**CLAIMS:**

1. An apparatus for displaying images including:  
an enclosure,  
5 a frame installed in the enclosure and adapted to hold an interlaced image, and  
an optical barrier including a plurality of substantially parallel elongated grills  
spaced from the frame and adapted to obscure portions of an installed interlaced image,  
and wherein the interlaced image in conjunction with the optical barrier display  
3D images to a viewer.  
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2. An apparatus for displaying images as claimed in claim 1 further including a  
image installed in the frame.
3. An apparatus for displaying images as claimed in claim 2 wherein the image is a  
15 composition of multiple interlaced images applied to a light transparent material.
4. An apparatus for displaying images as claimed in claim 2 or claim 3 wherein the  
image is produced on a single piece of material.
- 20 5. An apparatus for displaying images as claimed in any one of claims 1 to 4 wherein  
the grills may be extruded from a non-reflective material, such as anodised aluminium.
6. An apparatus for displaying images as claimed in any one of claims 1 to 5 wherein  
the grills have a triangular or circular segment cross-section.  
25
7. An apparatus for displaying images as claimed in claim 6 wherein the grills are  
aligned so that the smallest distance between the image and the grills is at a vertex of  
grills.
- 30 8. An apparatus for displaying images as claimed in claim 6 or claim 7 wherein the  
grills present a flat or curved face to a viewer.

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9. An apparatus for displaying images as claimed in any one of claims 1 to 8 wherein the grills are arranged adjacently in a linear array with a gap between adjacent grills.
10. An apparatus for displaying images as claimed in claim 9 wherein the grills are oriented vertically.
11. An apparatus for displaying images as claimed in claim 9 or claim 10 wherein the grills are spaced such that there is a ratio of 80/20 of grill width to gap.
12. An apparatus for displaying images as claimed in any one of claims 9 to 11 wherein the spacing of the grill provides viewing between the angles of 15-165°.
13. An apparatus for displaying images as claimed in any one of claims 9 to 12 wherein the width of each grill is 20.32 mm.
14. An apparatus for displaying images as claimed in any one of claims 9 to 13 wherein the gap between each grill is 5.08 mm.
15. An apparatus for displaying images as claimed in any one of claims 1 to 14 wherein the enclosure is adapted to house a light source to provide back lighting for a image installed in the frame.
16. An apparatus for displaying images as claimed in claim 15 wherein the light source is a plurality of fluorescent lights.
17. An apparatus for displaying images as claimed in any one of claims 1 to 16 wherein the enclosure is constructed from non-reflective, opaque material.
18. An apparatus for displaying images as claimed in any one of claims 1 to 17 wherein the space between the image frame and optical barrier is adjustable.

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19. An apparatus for displaying images as claimed in claim 18 wherein the space between the image frame and the optical barrier is manually adjustable.

20. An apparatus for displaying images as claimed in claim 18 wherein the space between the image frame and the optical barrier is automatically adjustable.

21. An apparatus for displaying images as claimed in any one of claims 18 to 20 wherein the adjustment is by way of a suitable mechanical or electromechanical adjustment system.

22. An apparatus for displaying images as claimed in any one of claims 18 to 21 wherein the adjustment is by way of telescopic or slidable spacers.

23. An apparatus for displaying images as claimed in any one of claims 1 to 22 wherein the relative horizontal and vertical position of the image frame and optical barrier is adjustable.

24. An apparatus for displaying images as claimed in claim 23 wherein the relative horizontal and vertical position of the image frame and optical barrier is manually adjustable.

25. An apparatus for displaying images as claimed in claim 23 wherein the relative horizontal and vertical position of the image frame and optical barrier is automatically adjustable.

26. An apparatus for displaying images as claimed in any one of claims 23 to 25 wherein adjustment is by way of a suitable mechanical or electromechanical adjustment system.

27. An apparatus for displaying images as claimed in any one of claims 1 to 26 wherein the enclosure can be tilted to provide optimum viewing.

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